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PATENT
0475-0199P

6/8
04/10/03

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: BISSINGER et al. Conf.:
Appl. No.: 10/031,612 Group: Unassigned
Filed: January 22, 2002 Examiner: Unassigned
For: HYDROLYZABLE SILANES AND POLYMERIZABLE
SILANES WITH LOW VISCOSITY AND USE
THEREOF

LETTER

Assistant Commissioner for Patents
Washington, DC 20231

RECEIVED
MAR 13 2002
TC 1700
March 20, 2002

Sir:

Subsequent to the filing of the above-identified application on January 22, 2002, attached hereto is an English translation of the International Preliminary Examination Report (IPEA 409) which should be made of record in the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

8

Applicant's or agent's file reference 32544-PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/06639	International filing date (day/month/year) 12 July 2000 (12.07.00)	Priority date (day/month/year) 22 July 1999 (22.07.99)
International Patent Classification (IPC) or national classification and IPC C07F 7/18		
Applicant 3M ESPE AG		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>11</u> sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input checked="" type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input checked="" type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 20 February 2001 (20.02.01)	Date of completion of this report 14 September 2001 (14.09.2001)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP00/06639

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 1-39 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____ 1-16 _____, filed with the letter of _____ 02 August 2001 (02.08.2001)
- ☐ the drawings:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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VI. Certain documents cited

1. Certain published documents (Rule 70.10)

Application No.
Patent No.

Publication date
(day/month/year)

Filing date
(day/month/year)

Priority date (valid claim)
(day/month/year)

See annex

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure

Date of non-written disclosure
(day/month/year)

Date of written disclosure
referring to non-written disclosure
(day/month/year)

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

1. The amendments submitted with the letter of 2 August 2001 meet the requirements of PCT Article 34(2)(b). In particular, the description of the original application documents (pages 5u-11) disclosed the structure of the silanes now defined in the present Claim 1.
2. After consultation with the International Searching Authority, the Examiner concludes that the subject matter of the present claims can be considered to have been searched in its totality. The international preliminary examination report therefore concerns the entire claimed subject matter.
3. The present application concerns hydrolysable and polymerisable silanes, their preparation and use for producing polymers and the use of said silanes in dental medicine.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-16	YES
	Claims		NO
Inventive step (IS)	Claims	1-16	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

2. Citations and explanations

This report makes reference to the following search report citations:

- D1: ISHIKAWA, MITSUO ET AL.: "Silicon-carbon unsaturated compounds. 33. Regiochemistry in the photochemical formation of silenes from 1,2,2,2-tetramethyl-, 1,1,2,2-tetramethyl-, and 2-ethyl-1,2,2-trimethylphenyl-vinyldisilane", ORGANOMETALLICS, Vol. 10, No. 8, 1991, pages 2701-2706
- D2: WO-A-94/06807
- D4: DE-A-198 60 361
- D5: EP-A-0 963 751
- D6: PATENT ABSTRACTS OF JAPAN, Vol. 1995, No. 10, 30 November 1995 (1995-11-30)
- D7: PATENT ABSTRACTS OF JAPAN, Vol. 1999, No. 04, 30 April 1999 (1999-04-30).

1. Novelty (PCT Article 33(2))

- 1.1 The compounds disclosed in D1 do not fall within the scope of the compounds of general Formula I as defined in the present application. D1 also fails to disclose the use of the disclosed compounds for

producing silicic acid polycondensates.

1.2 D2 also fails to disclose compounds corresponding to Formula I with the substituents indicated.

Consequently, novelty can also be recognised in the use of these compounds for producing silicic acid polycondensates.

1.3 D6 discloses compounds in which a Si atom is substituted with more than one Si-containing group. According to the general Formula (I) defined in the present application, such compounds are not covered by the present application.

1.4 According to the definition of the compounds of general Formula (I) in D7, that document also discloses branched siloxanes which are not covered by the present Claim 1.

1.5 The subject matter of the present claims can therefore be considered novel (PCT Article 33(2)).

2. Inventive step (PCT Article 33(3))

2.1 The present application is considered to address the problem of providing silanes for use in dental compounds. This problem is considered to be solved by the preparation of compounds of Formula I as defined in the present Claim 1. In particular, it should be possible to work the silanes into dental compounds without having to use diluting monomers.

2.2 The available prior art does not appear to contain any indications of the claimed modifications to the compounds disclosed in the citations in order to

solve the technical problem of providing silanes for improved dental compounds. The subject matter of the present claims therefore also meets the requirements of PCT Article 33(3).

3. Industrial applicability (PCT Article 33(4))

The present claims are recognised to be industrially applicable.

INTERNATIONAL PRELIMINARY EXAMINATION REPORTInternational application No.
PCT/EP 00/06639**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: BOX VI

Documents D4 and D5 were published after the priority date of the present application but prior to its international application date. Should the priority of the present application prove to be invalid, their disclosure would therefore be considered to belong to the prior art. The disclosure of document D5 will also be considered for the assessment of novelty when the application enters the European phase (EPC Article 54(3)).

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The subject matter of the present Claim 2 does not appear to have any basis in the description (PCT Article 6).
2. The description is not consistent with the present set of claims.
3. The structures indicated in items 21 (or 22), 23 and 25 of the list of groups having the meaning "D" in Claim 1 appear to be erroneous.